Notes from the 02/07/06 MI BPM Upgrade Meeting
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These notes can be found in Beams docDB #1526.

Agenda as announced:

- Project Announcements
- Tasks/measurements in MI40 before shutdown
- Hardware status:
  - Combiner Board status
  - Transition Board
  - Transition Board I/O
  - Timing Board
  - Cables, crates, other.
- Software status:
  - Front-end software
  - Online software
- Validation
- AOB

0. Project Announcements

- The Run 2 Luminosity Upgrade Project (the "parent" project of the MI BPM upgrade) has a new head. Jeff Sims has taken over from Pushpa Bhat as of February 6, 2006. It does not change things for us all that much, but we do have some short-term reporting and other updates that have been requested by the new project manager.

1. Tasks/measurements in MI40 before shutdown

- We had a long and kind of rambling discussion of the measurements, functionality, tasks, etc. that should be performed before the shutdown (Feb 27). There are about 2 1/2 weeks before the beam goes off and it would be good to get as much of the work done as possible as quickly as possible. There is no absolute guarantee that beam will be running until Feb 27 - component failures can and have in the past led to early starts of shutdowns.

- I took lots of notes and will try to summarize the main points, not necessarily in order and not necessarily in order of importance.

- Bob discussed the capabilties of the current MI40 system and what still needs to be implemented. This includes timing, console control and applications, MI department people looking at the data, etc. All with a focus on getting the system as well understood and debugged as possible while beam is on.

- Bob also mentioned that a second VME setup is needed somewhere to allow for simultaneous MI40/house 44 running and investigations at the second location. This installation will be made this week. Denton Morris and Marv will work out many of the logistics.

- There was some discussion of the software and diagnostics, raw mode, I44, etc. It was expected that Steve, Luciano, Brian and Bob West will be working on making the changes required.

- Bob also discussed timing for house 44. The BES-triggered timing is thought to be more or less OK. The MI BSYNC timing has not yet really started and work needs to go on there. House delays will need to be implemented for both BES and MI BSYNC.

- Other thoughts and ideas presented included:

  - Raw data mode.
  - Injection measurements triggered by MI BSYNC.
  - Resolutions.
  - Smoothing the orbits using new data.
  - Understanding offsets.
  - Polarity and smoothing studies.
  - Extraction measurements.
  - TBT data.

- A decision was made to get started on some measurements by having the relevant parties get together at 9:15 A.M. on Wed Feb 8 in the Main Control Room.

1'. Offsets

- Bob showed information about the offsets (measured vs. implemented) in horizontal and vertical planes, giving the spread of the distributions as well as showing that we have some confidence that the numbers we have are more or less correct.

- Bob is writing this up and it will be released as a beams-doc soon.

- Part of the shutdown activities will be identifying which BPMs are at which physical locations (using serial numbers) to ensure that the correct offsets are applied.

2. Combiner Board

- Not much new. 30 more boards are being prepared for installation

when the next opportunity arises.

3. Transition Board

- The bids are due in about two weeks for the fabrication of the boards.

- The filters have arrived and they will be matched and paired in preparation for the transition board fabrication.

4. Timing Board

- No major changes. Some modifications have been requested and will be implemented soon.

5. Cables, crates, other H/W.

- Cables are arriving and are being tested.

- Requisitions for air dams and backplanes are being prepared or information is being gathered in preparation for writing the requisitions.

- No motion on the DAWN crates recently.

5. Front-end software

- Steve and Luciano are finding and fixing various bugs, fixing problems.

- They are preparing to implement the offsets in the front-end. This work needs to be coordinated with Brian.

- Close to having the two different house delays implemented.

6. Online software

- I39 is or is close to have the capability of selecting states.

- I50 and I52 are being worked on to handle "unexpected" data. This was encountered during raw data mode testing, I believe.

- I42 is ready for testing.

- I43 changes have been requested.

7. Validation

- Rob showed some raw data; signed A, signed B, abs(A+B). There were many questions about the number of bits that were being looked at (12 or 14), the structure of the plots, the noise, etc. More investigation and data will be taken and analyzed. Many features of the data look correct but there is still some work to do to understand some of the oddities that were pointed out.

8. AOB

- The timing discussions of the past weeks were all written up by Rob and as far as everyone was concerned they were fine. There is still the question of what defines "0" for the timing delays. A decision/definition will be made and we will use it consistently (hopefully) and document it.